

REMARKS

Favorable reconsideration of this application is respectfully requested.

Independent Claims 1, 16, 24, 44 and 50, and dependent Claims 14 and 30 have been amended to more particularly point out and distinctly claim the invention. Additionally, Claims 1, 5, 13, 15, 16 and 23 have been amended for consistent use the term "storage switch" to address the Examiner's objection to Claim 1 and to avoid any possible ambiguity with respect to the term "switch" in the claims.

For the reasons which follow, it is respectfully submitted that the cited prior art neither teaches nor suggests the claimed invention and cannot render the claims obvious.

The Rejections Under 35 U.S.C. §103

The rejections of independent Claims 1, 16, 24 and 44, and the rejections of dependent Claims 4, 5, 7, 13 and 20 as unpatentable over U.S. Patent No. 6,804,236 to Mahajan in view of U.S. Patent No. 6,975,626 to Eberle is respectfully traversed. All independent claims require that the classification (or identification) of packets as data or non-data packets be done with out buffering the packets. The combination of the cited references does not teach or suggest this, and no logical combination of the references would produce the claimed invention.

Independent Claim 1 is directed to a method for use by a storage switch in a storage network, and recites:

(a) receiving a plurality of packets by the storage switch, wherein the plurality of packets includes data packets and non-data packets;

- (b) classifying packets as data packets or non-data packets;
 - (c) communicating the non-data packets to a first device and the data packets to a second device, and
- wherein said step of classifying is performed without buffering of the packets.

Neither Mahajan nor Eberle individually or in combination teach or suggest classifying packets by a storage switch as data packets or non-data packets without buffering of the packets, as claimed.

Mahajan is directed to an Ethernet switched data network, and addresses the problem of reducing the volume of multicast messages being forwarded and processed by multicast routers, by processing multicast messages in the switch to prevent messages from being propagated to switched segments where there are no receiving entities for such messages (col. 7, lns 32 – 45). Mahajan does not disclose or suggest classifying packets as data packets or non-data packets. Rather, Mahajan inspects the IP header of an incoming Ethernet message frame for the IP protocol, determines the type of multicast message, and generates control signals for forwarding the messages to appropriate destination addresses (col. 9, ln. 63 – col. 10, ln 1; and col. 10, lns 21 – 44).

Eberle discloses a switched network and addresses the problem providing low latency communications by avoiding forwarding delays that are variable and unpredictable, and by avoiding bookkeeping related to outstanding packets and scheduling (see col. 2, lns. 26 – 30). Eberle discloses a network for communicating data packets from network sending nodes to network receiving nodes through two physically and logically separate data channels, a low latency channel and a high

bandwidth channel, in which packets are sent to one of the two channels based upon their size (see col. 4, Ins. 33 – 43, and col. 7, Ins. 4 - 35). The sending node determines whether a particular packet should be transferred over the low latency channel or the high bandwidth channel based upon whether a packet is considered large or small (see col. 7, Ins. 4-8).

Eberle's low latency network comprises "bufferless" switches for communicating packets from sending nodes to receiving nodes. These "bufferless" switches do not process packets, and do not classify packets as data packets or non-data packets without buffering, as claimed. Rather, all packet processing is done by the sending node prior to the switch.

Moreover, the "bufferless" switches of Eberle are not free of buffers. As explicitly described by Eberle, "[b]eing bufferless does not mean that there are no storage elements in the switch, it simply means that any switch storage elements that are present do not provide buffering resulting in variable transmission delays through the switch" (see col. 12, Ins 37-42). Thus, Eberle does not teach switches that process packets without buffering.

Eberle discloses that it is the sending nodes which process packets, not the switch, and determine packet size and to which switch channel the packets are sent (see col. 7, Ins. 4-8). In fact, the switches disclosed by Eberle simply switch packets and do no processing of packets. In contrast, the claims call for classification of packets by the storage switch without buffering of the packets. There is no disclosure or suggestion of this in Mahajan and Eberle.

Accordingly, Mahajan and Eberle do not teach or suggest a storage switch which classifies packets as data packets or non-data packets without buffering of the packets, as claimed. Moreover, it is respectfully submitted that the teachings of Mahajan and Eberle are in opposite to the claimed invention, address different problems from the invention, and that no logical combination of the references would produce the claimed invention. Thus, one skilled in the art would not be led to combine the references as proposed by the Office, and, in fact, combining the references would not produce the claimed invention without modifying the references in ways that are neither taught nor suggested by the references, but only by hindsight from the teachings of Applicants' specification.

Accordingly, it is respectfully submitted that Mahajan and Eberle cannot render independent claims or the claims dependent thereon obvious and unpatentable.

Independent Claims 16, 24, 44 and 50 all have similar recitations to Claim 1 and are patentable over Mahajan and Eberle for similar reasons.

In particular, independent Claim 16 is directed to a method for use by a storage switch that comprises classifying packets into non-data packets and data packets without buffering of the packets.

Independent Claim 24 is directed to a method for use in a storage switch that comprises identifying, by an identifier unit on a linecard, each packet as a data packet or non-data packet, where the identifying is performed without buffering.

Independent Claim 44 calls for a linecard for use in a storage network that comprises a classifier designed to classify packets without buffering and to communicate non-data packets to a CPU and data packets to a second device.

Finally, independent Claim 50 is directed to a switch for use in a storage network comprising a linecard that includes classification means for classifying packets without buffering into control packets and data packets, and is allowable for the same reasons as the other independent claims are allowable.

Furthermore, it is respectfully submitted that the rejection of Claim 50 is improper because the Office has failed to establish a *prima facie* case to support the rejection. Claim 50 is written in means plus function form, and as such must be construed pursuant to 35 U.S.C. §112, ¶6 to cover the structure described in the specification for performing the claimed function of classifying and communicating, and equivalents thereof. The Office has not identified either the same function in the references or corresponding or equivalent structure in the cited references for performing such function. Accordingly, the rejection is improper for this reason also.

For reasons similar to those discussed above in connection with Claim 1, Mahajan and Eberle cannot render independent Claims 16, 24, 44 and 50 or the claims dependent thereon, obvious, and these claims are all deemed to be allowable over Mahajan and Eberle.

As to the other rejections of the claims based upon Mahajan, Eberle and U.S. Patent No. 6,687,247 to Wilford, Wilford discloses a linecard for providing high-speed class of service that employs queues for buffering packets prior to

transmission across a switch fabric. (See Abstract, and col. 7, Ins. 6-8). While Wilford may disclose read commands and write commands, at col. 37, In. 65 to col. 38, In. 40 and at col. 31, Ins. 35 – 40, as stated by the Office, the read and write commands are for reading packets from and writing packets to the queues (buffers) in the linecard. Accordingly, Wilford's disclosure of linecards in a switch which use buffers for packets adds nothing to the combination of Mahajan and Eberle with regard to the claimed invention, and no combination of Wilford with Mahajan and Eberle teaches or suggests classifying packets as data packets or non-data packets without buffering of the packets, as claimed. Accordingly, the rejections based upon the combination of Mahajan, Eberle and Wilford are improper.

In view of the foregoing, it is respectfully submitted that Claims 1-30 and 44-53 are allowable over the cited prior art, and that this application is deemed to be in condition for allowance. Accordingly, early allowance of these claims is solicited.

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